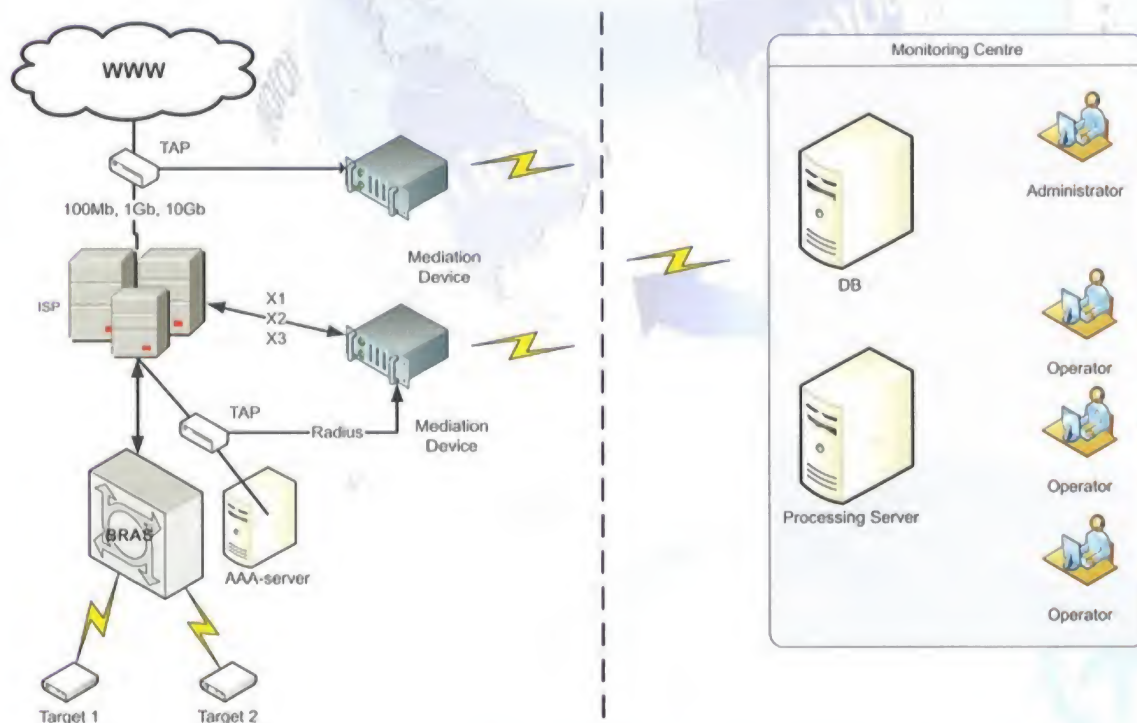


## Internet Traffic Monitoring System

TerraNET 10G provides the monitoring of high-speed data transmission channels with rates up to 10 Gbps, selection, filtering and recording of the of Internet traffic. TerraNET 10G is the universal solution for interception of multi-protocol traffic (e-mail, http, voice, video, MSN, Skype etc.).

### Key features:

- Procession and recording of data streams with the rates up to 10 Gbps;
- Selection from the stream and recording of sessions, belonging to interception target by different parameters, such as IP- address, Login, e-mail etc.;
- Conversion of intercepted sessions into viewable form;
- Procession of AAA server protocols;
- Long-term storage of information in the Database;
- Centralized control of operation from the Administrator workstation;
- Keyword search and priority based procession of intercepted traffic.





# TerraNET 10G



## Internet Traffic Monitoring System

### Connection interfaces

- 10 Gigabit Ethernet
- Gigabit Ethernet
- Fast Ethernet
- SDH (STM1-STM4)

### Selection/Filtering criteria

- MAC-address;
- IP- address;
- IP-port;
- E-mail;
- SIP URL ID;
- Phone number or subscriber's line ID
- User ID;
- Modem ID;

### Processed protocols

- Network Protocols: TCP/IP, UDP, DNS, DHCP, FTP, SMTP, POP3, IMAP4, ESMTP, HTTP, Etc.
- VoIP: H.323, SIP, MGCP.
- Instant Messaging: MSN, Skype.
- AAA protocols: Radius.
- Streaming protocols: RTP, RTSP.

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## Universal Legal Interception System

### Brief description of TerraLIS system key elements.


- Mediation Device (MD) is intended for interaction with switching equipment of service provider for implementation of monitoring features. MD can be connected to switching equipment via various interfaces – SORM, ETSI, CALEA, internal interfaces of equipment vendor.
- Database Server is intended for storage of information about the registered communication sessions.
- Archive server is intended for long-term storage of information about communication sessions, stored to the archive.
- Query Procession Server is intended for separation of access from processing sites to procession subsystems.
- Data Conversion Server is intended for conversion of fax and modem messages into the form, viewable by operators.
- Data Processing Server is intended for procession and storage of information from data transmission sub-networks (GPRS, PDSN, IP-traffic).
- Optical Recognition Station is intended for text recognition from intercepted fax pages and information storage to text files.
- Keyword Search Station is intended for automated search of set keywords through the recognized fax and modem messages.
- System Administrator Workstation is intended for control of Operator's activities, forming of target selection table, allocation of tasks to Operators, etc.
- Control Server is intended for technological control of elements of the system.
- Administrator on Duty Workstation is intended for control of Operator's activities, allocation of tasks to Operators, distribution of load between Operators (within the margins, defined by System Administrator).
- Operator Workstation is intended for procession of intercepted communication sessions and creation of reports about their contents.

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# TerraLIS



## Universal Legal Interception System

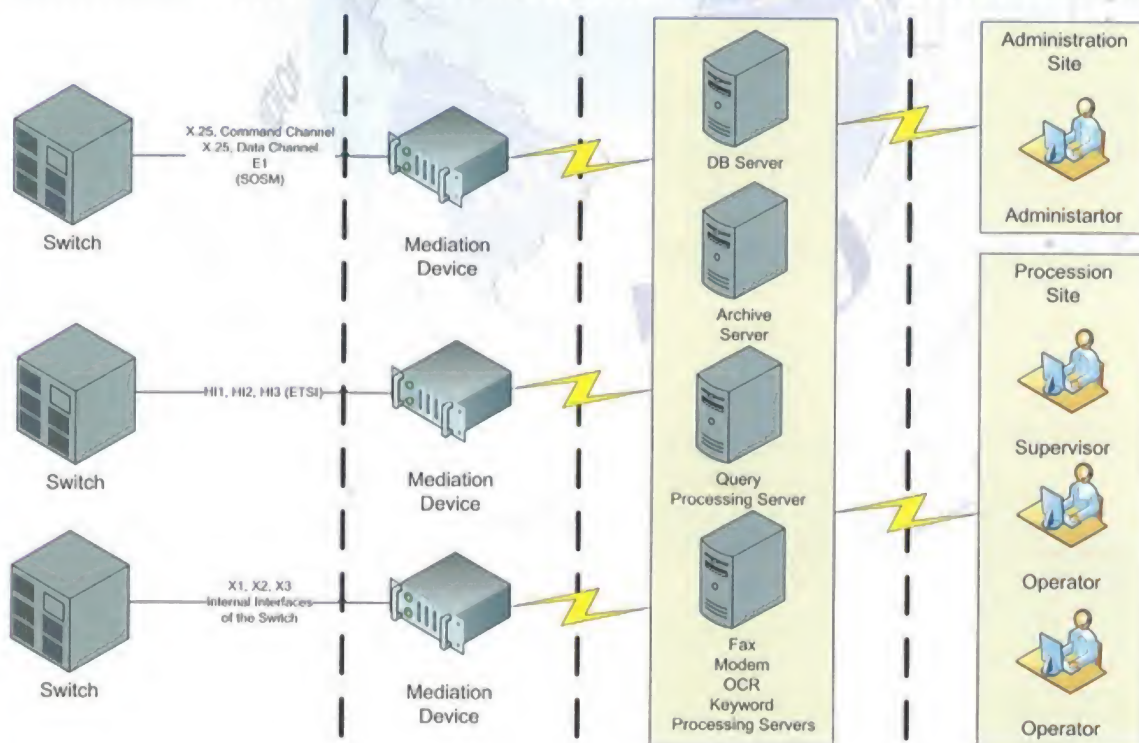
The TerraLIS Legal Interception System is intended for interception and procession of communication sessions from telephony and data transmission sub-networks by authorized law enforcement agencies. It provides the possibility of interception both from traditional channel switched telephone networks and new generation multi-service networks (NGN).

TerraLIS provides:

- Connection to network elements of service provider via SORM, ETSI, CALEA interfaces or via internal interfaces, provided by the communication switch itself (X-interface).

Functional features of TerraLIS system:

- Connection to the following types of network equipment: PSTN, GSM, CDMA, NGN, GGSN, SGSN, PDSN;
- Interception of incoming and outgoing calls (internal, local, in-zone, long-distance and international) to/from certain subscribers of the given switch, being monitored;
- Interception of outgoing call from all the subscribers of given switch to pre-defined numbers in the telephony network;
- Interception of facts of setting up or changing by the subscriber being monitored of the additional services, changing the direction of the calls (call forwarding, conference calls, etc.) or numbering information (fast dialing, direct calling, etc.).
- Long-term storage of all the intercepted information;
- Detection of subscriber's location with indication on the map;
- Gathering of the statistics about system events;
- Indication of information in convenient form;
- Possibility of monitoring of subscribers by different identities.



Universal Legal Interception System

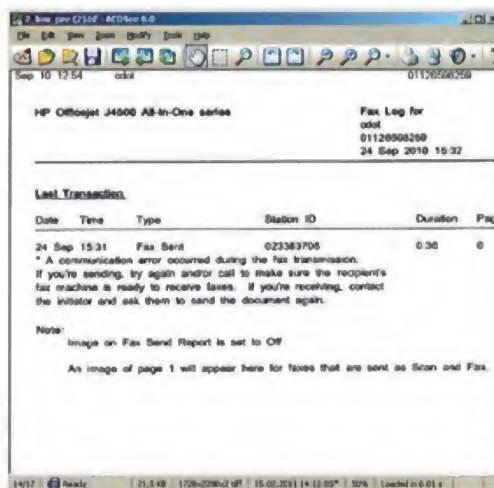
TerraLIS



# Fax/Modem demodulation Software

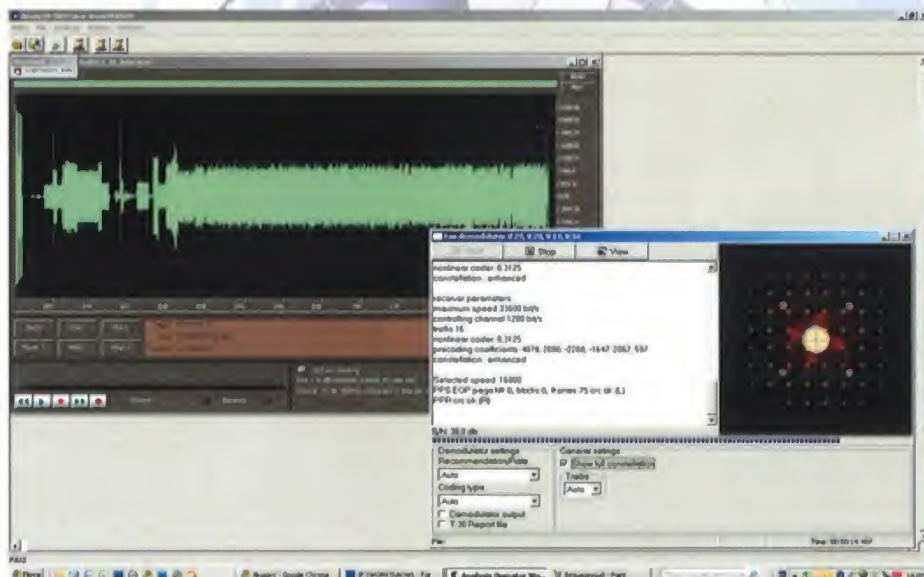


## Fax/Modem demodulation Software



- Demodulation of facsimile sessions for protocols V.17, V.29, V.27ter, V.21, V.34Fax and subsequent decoding in accordance with compression methods MH, MR, MMR, JPEG, JBIG and error correction mode (ECM).

- Demodulation of modem communication sessions in accordance with following recommendations V.21, V.22, V.22bis, V.26, V.26bis, V.29, V.32, V.32bis, V.33, V.34, V.90 and subsequent procession of error correction protocols: MNP 2-4, V.42, MNP 5, V.42bis, V.44.







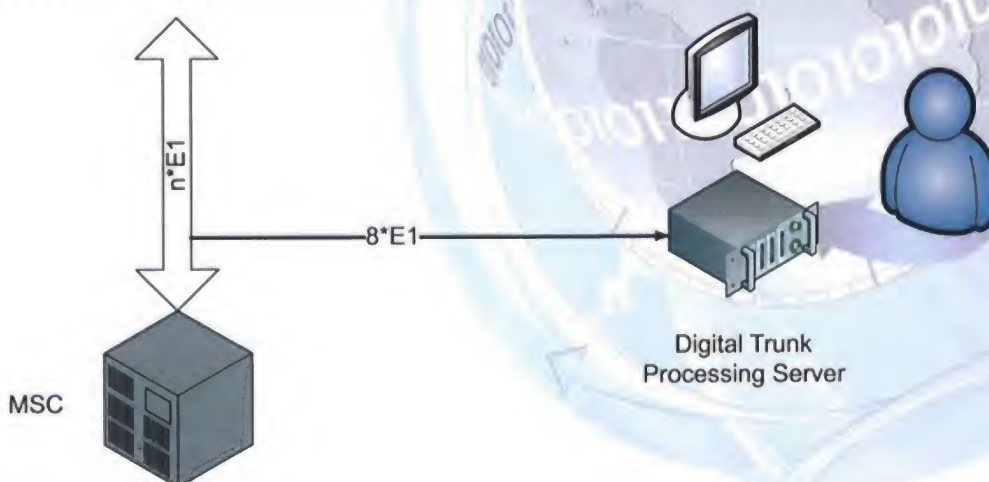
## Trunk-based communications monitoring system

### "TerraLine Portable"

The system is intended for operative control of up to 8 duplex digital E1 trunks of fixed phone network or GSM cellular communication network. "TerraLine Portable" system allows to provide fast monitoring of currently interesting connections. The optimization of used software enables to combine on one PC the abilities of big stationary monitoring systems.

#### "TerraLine Portable" system provides:

- Monitoring connection, tapping and translation of up to 8 duplex digital trunks of E1 standard (G. 703) 75/120 Ohm;
- Procession of digital trunks with ITU #5, R1, R1.5, R2, DTMF, R2D, ISDN, EDSS1, SS#7 signaling;
- Procession of digital trunks of GSM cellular communications network with A or A-ter interfaces;
- Automated selection of sessions by phone numbers, MSISDN, IMSI, IMEI, Cell ID;
- Demodulation of fax sessions, according to V.27ter, V.29, V.17 and V.34 fax recommendations;
- Procession of MH, MR, MMR, ECM, JBIG, JPEG protocols.
- Demodulation of V.21, V.22, V.22bis, V.26, V.26bis, V.27, V.29, V.32, V.32bis, V.33, V.34, V.90 modem sessions;
- Decoding and error correction V.42, V.42bis, V.44, CODEX, MNP 1-5, HDLC, PPP, Slip, UUCP, IP, TCP, UDP, SMTP, POP3, IMAP, MIME, FTP, Web, X-Y-Z modem and Kermit protocols etc;
- Support of the local database, providing the storage of phone numbers of interest and search of information about the required communication sessions;
- Automated archiving of the recorded information into external digital media;
- Automated operation of the system according to pre-set scenario;
- Possibility of the remote access to the system via LAN, WAN, Dial-up, Leased line.

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# TerraLine



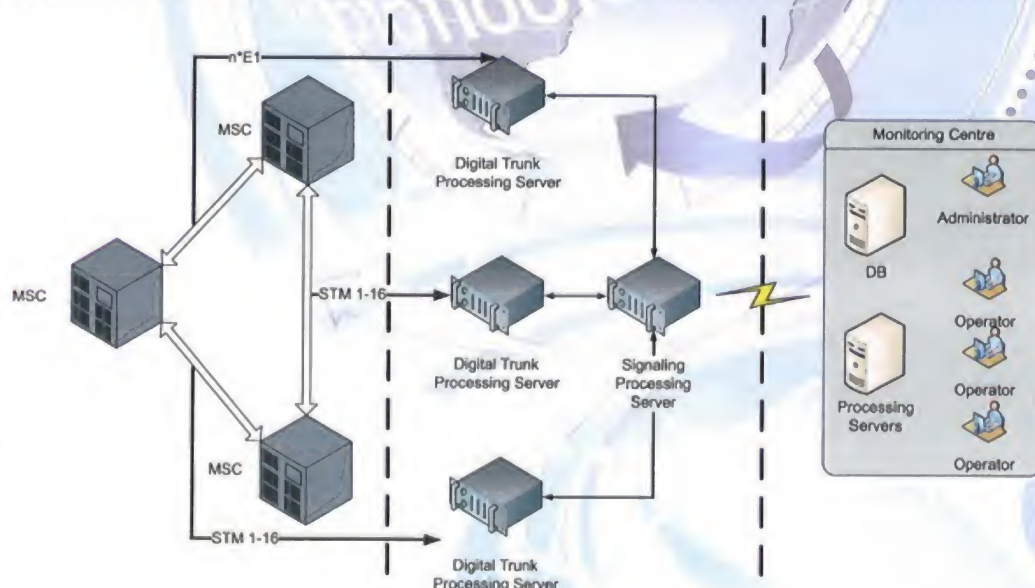
## Trunk-based communications monitoring system

### "TerraLine Global"

The "TerraLine" Global Monitoring System (hereinafter as "System") is designed for automatically input, record and process communication sessions from digital trunks with different kind of signaling such as ITU #5, R1, R1.5, R2, DTMF, R2D, ISDN, EDSS1, SS#7 and A or A-ter interfaces. The System provides classification of sessions according to signal forms (voice, fax or data) and their storage during predetermined time together with the session-related information (date, time, duration, calling and called telephone number, TMSI, IMSI, IMEI, cell's number etc.). Also System provides an ability to determine a location of the selected/targeted mobile subscriber while the session is in progress.

#### "TerraLine Global" system provides:

- Monitoring connection, tapping and translation of digital trunks of E1 and STM1-16;
- Procession of digital trunks with ITU #5, R1, R1.5, R2, DTMF, R2D, ISDN, EDSS1, SS#7 signaling;
- Procession of digital trunks of GSM cellular communications network with A or A-ter interfaces;
- Automated selection of sessions by phone numbers, MSISDN, IMSI, IMEI, Cell ID;
- Demodulation of fax sessions, according to V.27ter, V.29, V.17 and V.34 fax recommendations;
- Procession of MH, MR, MMR, ECM, JBIG, JPEG protocols.
- Demodulation of V.21, V.22, V.22bis, V.26, V.26bis, V.27, V.29, V.32, V.32bis, V.33, V.34, V.90 modem sessions;
- Decoding and error correction V.42, V.42bis, V.44, CODEX, MNP 1-5, HDLC, PPP, Slip, UUCP, IP, TCP, UDP, SMTP, POP3, IMAP, MIME, FTP, Web, X-Y-Z modem and Kermit protocols etc;
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TerraLine  
Trunk-based communications monitoring system

TerraLine